knife is then withdrawn by the small puncture, and firm compression is made on the part for a few days.

M. Barthelemy mentions three cases in which this mode of treatment has been quite successfully adopted. He suggests also, that perhaps other kinds of tumour may be advantageously treated in the same manner.

M. Malgaigne also has adopted in one case, where there were several ganglions or sinovial swellings over different joints, the method of dividing the tumours fairly across from side to side under the integuments. He suggests its applicability to the treatment of some cases of hydrocele.—*Med. Chirurg. Rev.*, July, 1840, from *Gaz. Méd. de Paris.*

51. *On Subcutaneous Wounds of the Joints.*—M. JULES GUERIN has communicated to the Academy of Medicine, a memoir on this subject, in which he endeavours to show from experiments on man and the lower animals, that subcutaneous wounds of the joints, (*i. e.* those not involving the skin,) as of the tendons, muscles, aponeuroses, cellular tissue, nerves, and minute vessels, may all, by means of particular precautions, be healed by the first intention.

His first experiments were made on animals. He opened successively on two dogs, by the subcutaneous method, the humero-cubital, radio-carpal, femoro-tibial, and tibio-tarsal articulations; and when no air was allowed to come in contact with the opened joint, they healed immediately without exhibiting any traces of inflammatory action. When these articulations were, however, left free in their motions, synovial tumours formed around the joint; but if they were kept in a state of repose, and permanent extension, the cure was completed without any accident whatever. When the wounds were made so as to allow of the contact of air, or its introduction into the joint, inflammation and suppuration were excited, proportioned in extent and intensity to the duration of the contact of the air.

His next experiments were on man. Acting on the results furnished by these experiments, and also on what is every day observed in man, where, in luxation of the shoulder or hip-joints, though considerable injury is inflicted on the capsular ligament and neighbouring parts, no inflammatory symptoms are set up, provided the skin be not torn, he ventured to operate on man. He has many times made a subcutaneous section of the ligaments, and a portion of the fibrous capsule of the knee, and of the foot, to remedy deformities of these joints; and in no instance have these operations been followed by inflammatory action.

The precautions which must be taken in order to insure the subcutaneous wounds of the joints from inflammatory accidents, are, to make the aperture in the skin very small, and as far as possible from the articulation; to make it while the limb is extended, and not when it is bent; and to keep the limb after the operation in the most perfect state of repose. These two last directions are the consequences of a theory which M. Guerin has endeavoured to establish, which is, that articulations are, during their movements, the seat of a partial temporary enlargement, which causes in them a tendency to produce a void; so that if the limb was flexed or extended after the operation, a suction takes place at the orifice of the wound, and air is drawn into the joint.

In the third part of his paper, M. Guerin shows the practical uses of his discovery in the art of surgery. Serous, sanguineous, and purulent collections of matter in the articulations may, by the same means, be drawn off with safety. But it is chiefly to its advantages in aiding the reduction of old luxations, or removing deformities by incising the ligaments or tendons, that M. Guerin directs the attention. He has already by this means cured a congenital luxation of the clavicle which had resisted all known means. He made numerous incisions of the ligamentary apparatus around the head of the bone, and after two operations, so conducted, succeeded in bringing it into its proper place, and curing completely the deformity.—*Edinburg Med. and Surg. Journ.*, October 1840, from *Séances de l'Acad. des Sci.*, May, 1840.

52. M. GUERIN *on Club-Foot, Wry-neck, &c. &c.*—In a lecture which this gen-

tleman recently gave, of the results of his clinical practice, during a period of three months, in the treatment of various sorts of deformity, he thus explains his views as to the primary cause of club-foot, and of congenital irregularities of the joints, as well as of some kinds of deformity affecting the spine.

This cause, in his opinion, is the contraction, acting unequally and irregularly, of the muscles of the part.

"All congenital articular deformities are, like club-foot, the effects of convulsive muscular contraction; and the various sorts of these deformities are the results of the combinations of this contraction differently distributed in the muscles of the trunk and of the limbs."

In confirmation of the truth of this opinion, he alludes to the state of the muscles of the calf in cases of club-foot: they are hard, unyielding, and, as it were, matted together; the tendons are stiff and projecting, and so tense as to resist all attempts to restore the joint to its right position. The muscles chiefly affected in club-foot vary in the different varieties of this deformity. Thus, when the foot is twisted outwardly, the tibiales, anticus and posticus, are the most contracted; when it is turned inwardly, the tibialis posticus, the adductor, and the flexor pollicis are at fault; in cases of valgus with abduction of the foot, the interior and lateral peronei are chiefly affected; and in complex club-foot, the extensors and the flexors of the toes are all more or less unnaturally contracted. In addition to the irregular contraction of certain muscles, there is in some cases, at the same time, a greater or less degree of partial paralysis.

The following table will indicate, in a certain degree, the comparative frequency with which different muscles of the leg are apt to be affected in club-foot:—

In 17	cases,	the tendo Achillis was divided.	
12	,,	the tendon of the tibialis ant.	was divided.
3	,,	.. .. .. ,, post.	,,
1	,,	.. .. .. extensor dig.	,,
4	,,	.. .. .. extens. pollic.	,,
1	,,	.. .. .. peroneus ant.	,,
3	,,	.. .. .. flexor digator.	,,
3	,,	.. .. .. flexor poll.	,,
2	,,	.. .. .. abductor poll.	,,
3	,,	.. .. .. flexor brevis dig.	,,
5	,,	.. .. the aponeurosis plantaris	,,
54			

"You thus see, gentlemen, that the tendons of every muscle of the leg, with the exception of the lateral peronei,* have been divided. Conformably to our principles, we have attacked each variety of the deformity, by the section of the tendon or tendons producing it. In no one instance have we failed: you have seen successively disappear the different elements of each deformity by the practice that has been pursued. Where my predecessors were satisfied with restoring the normal *direction* of the foot by the division of the tendo Achillis, we have laboured to effect the complete restoration of its *forms*, the removal of the *curvatures* of the plantar arch, of the forced abduction of the foot, of its curvatures inwards, of the subluxation of the toes, and of the twisted position of the foot—elements, the cause and mechanism of whose production were quite misunderstood, and the proper treatment of which had been quite overlooked."

M. Guerin next alludes to the various auxiliary means, such as manipulations, bandages, plaster of Paris moulds, and machines, used in the treatment of club-foot and other such like deformities.

He admits that each of them is respectively useful in certain cases. By well applied manipulations, after the contracted tendon or tendons have been divided, the foot may sometimes be at once restored to its right position almost as speedily as when a dislocation is reduced. When, however, the resistance is much greater, then recourse must be had to bandages, instruments, and plaster moulds. M. Guerin speaks in terms of high praise of the last-named means.

---

* These muscles were divided in a case which occurred subsequently to the delivery of the lecture.

"When the deformity has been very great, and the resistance is so decided as to prevent the adjustment of the limb either with the hand alone, or with the aid of instruments, (after the section of the contracted tendons,) or when the skin is so tender that a sufficient degree of mechanical compression cannot be employed without risk of injury, then the plaster mould, by distributing an equal amount of pressure on every point of the limb, and by retaining and concentrating on its surface the cutaneous exhalation, is by far the best means for overcoming the resistance, and repairing any injury to the integuments which may have been caused by the use of either bandages or instruments. Such circumstances have several times occurred in our practice during the treatment of the extreme and complex sorts of club-foot, in children of from two to four years of age."

The period of time required for the cure of club-foot varies a good deal according to the duration, and the particular form or variety of the deformity that exists. About four weeks may be considered to be about the average time required; but some cases do not require above three weeks, and others need nearly three months before a complete cure is obtained. Whenever the case is of a complicated nature, as when the primary or essential deformity is associated with other deviations from the normal shape and direction of the foot, the treatment required will necessarily be not only more protracted and troublesome, but is seldom so perfect and complete as in simple cases.

Besides the cases of club-foot treated at the Clinique of M. Guerin, there were ten cases of *wry-neck* admitted. His remarks on this deformity are to the following purport:—

"You now know that the two phases—the ancient and the recent—of this deformity are two morbid states, very different from each other, of the muscular system, and which require different methods of treatment. We have already explained to you that permanent *contraction* (contracture) is very different from *retraction*, and we have insisted the more on this distinction, seeing that no surgeon had attended to it before ourselves. The *former* is the spasmodic shortening of a muscle, without any appreciable alteration of its tissue, so that if the contracted muscle were stretched out, all its normal characters would be at once restored. The *latter*, on the contrary, is that shortening produced at first indeed by contraction, but in which the texture of the affected muscle has become subsequently more or less deeply altered, and has thus assumed a greater or less degree of a fibrous or of a fatty consistence.

"Attention to the distinction between these two very different conditions of a contracted muscle is necessary to the establishing of a scientific practice. If there be simple *contraction*, we may hope to effect an elongation of the contracted muscles by means of extension, rubbing, shampooing, &c.; whereas, if there be genuine *retraction*, the only rational method of relieving the deformity consists in dividing the affected muscle.

"We have exemplified this distinction, before your eyes, in the treatment of wry-neck, according as the deformity has been of old or of recent formation; and the success which has attended our practice has abundantly proved the correctness of the diagnosis now pointed out.

"Among the most useful means to promote the elongation of muscular contraction is the use of friction with antimonial ointment: the eruption which this excites has seemed to me to prepare the way for the more successful employment of extension. In three cases of wry-neck treated before you, the re-adjustment of the head has appeared to be intimately connected with the eruption of the pustules over the contracted muscle."

M. Guerin subsequently alludes to the operation of dividing the biceps, semitendinosus, semimembranosus, rectus internus, Sartorius, &c. for relieving the deformities of the knee and hip. He concludes by stating that—

"During the last four months I have performed before your eyes 68 operations of dividing tendons and muscles, in not one of which has any troublesome symptom supervened, and all of which (with upwards of 400 other cases of analogous operations performed by me during the last four years) tend to confirm the truth of my theory of *subcutaneous wounds*, and establish the superior advantages which I have attributed to this method of operating over the usual one."—*Med. Chirurg. Rev.* July, 1840, from *Gaz. Méd. de Paris.*

53. *Treatment of Diseases of the Testicle by Compression.*—LANGSTON PARKER, Esq., extols this practice as possessing great advantages over the ordinary methods. "In common swelled testicle compression may be employed," he says, "as soon as the patient is able to bear the application of the plasters; and this is generally much sooner than might be supposed, however acute the disease may be. The great advantages possessed by compression are, almost immediate relief to pain; which is occasioned, in great measure, by the dragging and weight of the inflamed organ, and is mitigated, and most commonly completely removed by its support: the patient can pursue, in most instances, his ordinary duties, and there is no occasion to confine him to bed; a circumstance of great importance where concealment is wished, as it always is, in diseases of this kind. In addition the cure is much more quickly, and much more perfectly effected by compression than under the ordinary method, the swelling of the gland more rapidly subsiding, and less commonly leaving behind it any chronic irritation and enlargement, which is liable at some future time, in bad constitutions, from injury, or from a renewal of the disease, to degenerate into some of the malignant forms of disease of the testis.

"Chronic inflammation and enlargement of the testis also very commonly occurs as one of the symptoms of constitutional syphilis, as well as from other causes. Here, also, compression, as a local remedy, is by far the most valuable of any with which I am acquainted, particularly in those cases where enlargement of the organ, from chronic inflammation, has taken place to a considerable extent, where the weight chiefly incommodes the patient, and little or no tenderness is experienced when the part is handled.

"I am not prepared to say how far compression may be of service in the incipient stages of certain forms of malignant disease of the testis, but believe much advantage may be derived from its employment, since, in addition to the benefit to be looked for from mere compression of the part, much good may be expected from the constant topical application of mercury, iodine, and other remedies, only to be well accomplished in this way.

"Compression of the testis is to be practised by surrounding the organ by straps of plaster, applied as closely and as tight as the patient can bear. The plasters I generally use are those of ammoniacum, with mercury, or iodine and belladonna. These are to be smoothly spread upon thick wash leather, and cut into thin straps; an assistant then grasps the testicle, and draws it as far downwards as he can in the scrotum, which should previously be washed with a little spirits of wine. The first strap should be placed at the upper part, circularly round the testis, and succeeded by others, placed in the same direction, till the whole is covered. A second series of straps is then to be placed in an opposite direction to the former, crossing them at right angles, from behind forwards. One or two long ones may then be placed over these, where they appear to be most needed, to keep the whole in place. The parts should be supported by a well-fitting suspensory bandage, although the plasters at once relieve any inconvenience or pain that may have been occasioned by the dragging or weight of the testicle."—*Lancet*, July 25, 1840.

54. *On the Etiology and Treatment of Congenital Luxations and Pseudo-Luxations of the Femur.* By Dr. J. GUERIN.—I have established it as a fact, in my History of Deformities of the Osseous System, that the greater number of congenital articular contractions are the product of primitive muscular retraction. . . . . . I conclude: 1. That congenital luxations of the hip-joint are, like